

**TRANSMITTAL OF APPEAL BRIEF**Docket No.  
T3572-908375US01In Re Application Of:  
Bruce HALL

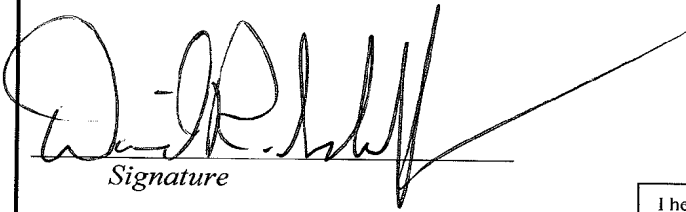
Application No. 10/510,691	Filing Date Oct. 8, 2004	Examiner Phi Dieu Tran A	Customer No. 000181	Group Art Unit: 3633	Confirmation No. 4047
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Invention:  
SHRAPNEL CONTAINMENT SYSTEM AND METHOD FOR PRODUCING SAME**COMMISSIONER FOR PATENTS:**

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on June 3, 2010.

The fee for filing this Appeal Brief is: \$540

- ☐ A check in the amount of the fee is enclosed.
- ☐ The Director has already been authorized to charge fees in this application to a Deposit Account.
- ☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-1165.
- ☐ Other

  
*Signature*

David R. Schaffer, Reg. No. 43,089

Dated: August 3, 2010

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

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Signature of Person Mailing Correspondence

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Typed or Printed Name of Person Mailing Correspondence

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of:

First Named Inventor: Bruce HALL

Art Unit: 3633

Application No.: 10/510,691

Examiner: Phi Dieu Tran A

Filed: October 8, 2004

Confirmation No.: 4047

For: SHRAPNEL CONTAINMENT SYSTEM AND  
METHOD FOR PRODUCING SAME

\* \* \*

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Appellant herein appeals from the rejection of Claims 1-17, 19-21, 23-35, 37-39, 41 and 52-71 in the Office Action dated March 3, 2010. One or more of the foregoing claims have been twice rejected. This Appeal Brief is submitted in support of a Notice of Appeal filed on June 3, 2010.

**1. Real Party in Interest**

The present application is assigned to Life Shield Engineered Systems, Inc., to which the above captioned application was assigned by virtue of an Assignment from the inventor, Bruce S. Hall to B&H Coatings, Inc., executed October 3, 2004 and which was recorded October 8, 2004, on Reel/Frame 016692/0404.

**2. Related Appeals and Interferences**

None.

**3. Status of Claims**

Claims 1-17, 19-21, 23-35, 37-39, 41 and 52-71 stand rejected in the Final Office Action dated March 3, 2010. Claims 1, 14, 27, 30, 52, 56, 57 and 70 are the independent claims. Claims 1-17, 19-21, 23-35, 37-39, 41 and 52-71 are pending. Claims 18, 22, 36, 40 and 42-51 have been previously canceled. The rejections of Claims 1, 14, 27, 30, 52, 56, 57, 70 and 71 are the subject of this Appeal and they are shown in the attached CLAIMS APPENDIX.

**4. Status of Amendments**

Appellant has submitted no Amendments after the Office Action dated March 3, 2010.

## 5. Summary of Claimed Subject Matter

Independent Claim 1 is directed to a method for improving blast resistance of a structure (*e.g.* FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22), comprising: spraying a layer of an elastomeric material (*e.g.*, FIG. 1, *see spray from element 20*; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) to form a blast resistant panel (*e.g.*, FIG. 2, element 100; page 4, line 10) of a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g.*, page 8, lines 8 - 9); and once cured, securing said blast resistant panel to a wall (*e.g.*, FIGs. 2, 3 and 6, page 6, line 13 – page 7, line 6; and page 11, lines 4 - 8) of said structure so that the blast resistant panel extends from at least two opposing edges of the wall of said structure with a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter (*e.g.*, FIG., 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, *see A, B and C*; page 11, lines 4 – 8) of the wall of said structure.

Independent Claim 14 is directed to a blast-resistant panel, comprising: a cured layer (*e.g.*, FIG. 2, element 100; page 4, line 10) of a sprayed elastomeric material (*e.g.*, FIG. 1, *see spray from element 20*; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) having a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g.*, page 8, lines 8 - 9), and fastener elements (*e.g.*, FIGs. 2, 3 and 4, elements 120, 126 and unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4 - 6; and page 11, lines 6 - 8) for securing said cured layer to a wall of a structure (*e.g.* FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22) so that the cured layer extends from at least two opposing edges of the wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer

perimeter of the wall (*e.g.*, FIG. 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see A, B and C; page 11, lines 4 – 8) of said structure, said blast resistant panel being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (*e.g.*, page 11, lines 24 – 25) without breaking.

Independent Claim 27 is directed to a system for improving the blast resistance of a structure (*e.g.* FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22), comprising: one or more flexible, blast-resistant panels (*e.g.*, FIG. 2, element 100; page 4, line 10) having a predetermined thickness in a range between about 100 mil and less than 250 mil (*e.g.*, page 8, lines 8 - 9) and constructed of an elastomeric material (*e.g.*, FIG. 1, see spray from element 20; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) sprayed onto a fabric reinforcing layer (*e.g.*, FIG. 1, see spray from element 20 onto element 102; page 2, lines 20 – 24 and page 5, line 7 – page 6, line 3), said one or more flexible, blast-resistant panels having a steel channel fastened around a periphery thereof (*e.g.*, FIGs. 3, 4 and 5, see element 120; page 6, line 23 – page 7, line 15); and a plurality of fasteners (*e.g.*, FIGs. 2, 3 and 4, elements 120, 126 and unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4 - 6; and page 11, lines 6 - 8) adapted to fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure (*e.g.* FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22) so as to cover the wall of said structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the wall to a right side of the outer perimeter of the wall (*e.g.*, FIG. 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see



*A, B and C; page 11, lines 4 – 8)* with said one or more flexible, blast-resistant panels, said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (*e.g., page 11, lines 24 – 25*) without breaking.

Independent Claim 30 is directed to a system for improving penetration resistance of a structure (*e.g. FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22*), the system comprising: a flexible, blast-resistant panel (*e.g., FIG. 2, element 100; page 4, line 10*) of a sprayed elastomeric material (*e.g., FIG. 1, see spray from element 20; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16*) having a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g., page 8, lines 8 - 9*); a channel attached around a periphery of the flexible, blast-resistant panel (*e.g., FIGs. 3, 4 and 5, see element 120; page 6, line 23 – page 7, line 15*); and a plurality of fasteners (*e.g., FIGs. 2, 3 and 4, elements 120, 126 and unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4 - 6; and page 11, lines 6 - 8*) to fasten said channel to a wall (*e.g., FIG. 2, element 104; page 2, line 20; page 6, lines 13 -22*) of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure (*e.g., FIG., 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see A, B and C; page 11, lines 4 – 8*), said flexible, blast-resistant panel being to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (*e.g., page 11, lines 24 – 25*), and said flexible, blast-

resistant panel being to impede passage through said blast-resistant panel of wall fragments resulting from the explosive blast (*e.g.*, *page 7, lines 18 – 25; page 12, lines 7 - 25*).

Independent Claim 52 is directed to a blast and penetration resistant system comprising: a cured, blast-resistant panel (*e.g.*, *FIG. 2, element 100; page 4, line 10*) of a sprayed elastomeric material (*e.g.*, *FIG. 1, see spray from element 20; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16*) having a fabric reinforced layer embedded therein (*e.g.*, *FIG. 1, see element 102; page 2, lines 20 – 24 and page 5, line 7 – page 6, line 3*), the cured, blast-resistant panel having a predetermined thickness between about 100 mil and less than 250 mil (*e.g.*, *page 8, lines 8 – 9*), a percent elongation at break in a range of about 400-800% (*e.g.*, *page 8, lines 16 – 19*), the fabric reinforcing layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inches by 0.25 inches and a tensile strength of about 1200 psi by 1200 psi (*e.g.*, *page 9, lines 18 – 25*); and a steel channel subsystem configured to be attached around a periphery of the cured panel (*e.g.*, *FIGs. 3, 4 and 5, see element 120; page 6, line 23 – page 7, line 15*) and the steel channel subsystem and the periphery of the cured panel fastenable to a wall of a structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall (*e.g.*, *FIG., 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see A, B and C; page 11, lines 4 – 8*) with the cured, blast-resistant panel.

Independent Claim 56 is directed to a method for improving blast resistance of a structure, comprising: spraying a layer of an elastomeric material (*e.g.*, FIG. 1, *see spray from element 20*; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) to form a blast resistant panel (*e.g.*, FIG. 2, element 100; page 4, line 10) of a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g.*, page 8, lines 8 - 9); and once cured, securing said blast resistant panel to an interior surface of an exterior wall (*e.g.*, FIGs. 2, 3 and 6, page 6, line 13 – page 7, line 6; and page 11, lines 4 - 8) in a room of said structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter (*e.g.*, FIG., 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, *see A, B and C*; page 11, lines 4 – 8) of the wall of said structure, the blast resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion, the explosion impacting said exterior wall first, and then impacting said blast resistant panel (*e.g.*, page 7, line 16).

Independent Claim 57 is directed to a system for improving penetration resistance of a structure, the system comprising: a flexible, blast-resistant panel (*e.g.*, FIG. 2, element 100; page 4, line 10) of a sprayed elastomeric material (*e.g.*, FIG. 1, *see spray from element 20*; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) having a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g.*, page 8, lines 8 – 9); a channel attached around a periphery of the flexible, blast-resistant panel (*e.g.*, FIGs. 3, 4 and 5, *see element 120*; page 6, line 23 – page 7, line 15); and a plurality of fasteners (*e.g.*, FIGs. 2, 3 and 4, elements 120, 126 and unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4

- 6; and page 11, lines 6 - 8) to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure (*e.g.*, FIG. 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see A, B and C; page 11, lines 4 – 8), and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion (*e.g.*, page 7, lines 18 – 25; page 12, lines 7 - 25) having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (*e.g.*, page 11, lines 24 – 25).

Independent Claim 70 is directed to a system for improving penetration resistance of a structure, the system comprising: a flexible, blast-resistant panel (*e.g.*, FIG. 2, element 100; page 4, line 10) of a sprayed elastomeric material (*e.g.*, FIG. 1, see spray from element 20; page 2, lines 20 – 24 and page 4, lines 9 – 10 and 14 - 16) having a predetermined thickness in the range of about 100 mil to less than 250 mil (*e.g.*, page 8, lines 8 – 9); a channel attached around a periphery of the flexible, blast-resistant panel (*e.g.*, FIGs. 3, 4 and 5, see element 120; page 6, line 23 – page 7, line 15); and a plurality of fasteners (*e.g.*, FIGs. 3 and 5, unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4 - 6; and page 11, lines 6 - 8) to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure, a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, a third of said opposing sides abutting a left side of the outer perimeter of the wall

of said structure, and a fourth of said opposing sides abutting a right side of the outer perimeter of the wall of said structure (*e.g.*, FIG. 2, panel 100 is shown being installed to the wall and extend from the top of the outer perimeter to the bottom of the outer perimeter of the wall 104, page 2, line 18 – page 3, line 11; page 6, lines 13 – 22; FIGs. 6, see A, B and C; page 11, lines 4 – 8), said plurality of fasteners passing through the channel and through the periphery of the flexible, blast-resistant panel to secure the system to the wall (*e.g.*, FIGs. 3 and 5, unnumbered mechanical fastener (best seen in FIG. 5), page 6, lines 19 – 22; page 7, lines 4 – 6; and page 11, lines 6 – 8).

Dependent Claim 71 is directed to a system as set forth in Claim 70, said flexible, blast-resistant panel being to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more (*e.g.*, page 11, lines 24 – 25).

## 6. Grounds of Rejection to be Reviewed on Appeal

Claims 1 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,898,907 to Diamond [hereinafter *Diamond*] in view of Applicant's Disclosure page 8 [hereinafter *Disclosure*]. Claim 14 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Santos* in view of *Diamond*. Claims 3 and 8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Diamond* and *Disclosure*, and further in view of U.S. Patent No. 6,806,212 to Fyfe [hereinafter *Fyfe*]. Claim 27 stands rejected under 35 U.S.C. § 103(a) over *Haas* in view of *Madden Jr.*, *Carson* and *Disclosure*. Claim 30 stands rejected under 35 U.S.C. § 103(a) over *Haas* in view of *Diamond* and *Applicant's Disclosure*. Claim 52 stands rejected under 35 U.S.C. § 103(a) over *Haas* in view of *Madden Jr.* and *Applicant's Disclosure*. Claim 56 stands rejected under 35 U.S.C. § 103(a) over *Garmong* in view of *Applicant's Disclosure*. Claim 57 stands rejected under 35 U.S.C. § 103(a) over *Carson et al.* in view of *Sato et al.* Claim 57 stands rejected under 35 U.S.C. § 103(a) over *Haas* in view of *Diamond*, *Applicant's Disclosure* and *Carson et al.* Claim 70 stands rejected under 35 U.S.C. § 103(a) over *Haas* in view of *Applicant's Disclosure*, *Sato* and *Fonseca*.

In view of the aforementioned rejections, the issues are as follows:

- I. Whether independent Claims 1 and 14 are unpatentable under 35 U.S.C. § 103(a) over *Diamond* in view of *Disclosure*
- II. Whether the rejection of independent Claims 1 and 14 under 35 U.S.C. § 103(a) is based on impermissible hindsight
- III. Whether, in rejecting independent Claims 1 and 14 under 35 U.S.C. § 103(a), the proposed modification of *Diamond* impermissibly renders *Diamond* unsatisfactory for its intended purpose

- IV. Whether Claim 14 is unpatentable under 35 U.S.C. § 103(a) over *Santos* in view of *Diamond*
- V. Whether Claim 27 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Madden Jr.*, *Carson* and *Disclosure*
- VI. Whether Claim 30 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Diamond* and *Disclosure*
- VII. Whether Claim 52 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Madden Jr.* and *Disclosure*
- VIII. Whether Claim 56 is unpatentable under 35 U.S.C. § 103(a) over *Garmong* in view of *Disclosure*
- IX. Whether Claim 57 is unpatentable under 35 U.S.C. § 103(a) over *Carson et al.* in view of *Sato et al*
- X. Whether Claim 57 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Diamond*, *Disclosure* and *Carson et al*
- XI. Whether Claim 70 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*
- XII. Whether Claim 71 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*

## 7. Argument

In the Office Action dated March 3, 2010, Claims 1, 2, 6, 7 and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,898,907 to Diamond [hereinafter *Diamond*] in view of Applicant's Disclosure [hereinafter *Disclosure*]. Claims 14, 15 and 19 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*. Claims 3 and 8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, and further in view of U.S. Patent No. 6,806,212 to Fyfe [hereinafter *Fyfe*]. Claims 4, 5, 9, 10, 20 and 21 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, and further in view of *Fyfe*. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, and further in view of United States Patent Number 4,478,895 to Makami et al. [hereinafter *Makami*]. Claim 16 is rejected under 35 USC 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, and further in view of *Fyfe*. Claim 23 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, and further in view of *Makami*. Claim 24 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure* and *Fyfe*, and further in view of *Makami*. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*, *Fyfe*, and *Makami*, and further in view of United States Patent Number 5,681,612 to Benedict et al. [hereinafter *Benedict*]. Claims 14 and 17 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over United States Patent Number 5,347,775 to Santos [hereinafter *Santos*] in view of *Diamond* and *Disclosure*. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over United States Patent Number 6,269,597 to Haas [hereinafter *Haas*] in view of United States Patent Number 5,811,719 to Madden Jr. [hereinafter *Madden*], United States Patent Number 5,242,207 to



Carson et al. [hereinafter *Carson*] and *Disclosure*. Claim 29 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Madden*, *Carson* and *Disclosure*, and further in view of United States Patent Number 6,907,811 to White [hereinafter *White*]. Claim 30 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond* and *Disclosure*. Claims 31-35 and 37 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond* and *Disclosure*, and further in view of *Madden*. Claims 38, 39 and 41 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond* and further in view of *Fyfe*. Claims 52 and 55 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Madden*, *Fyfe* and *Disclosure*. Claim 53 is rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over *Haas* in view of *Madden*, *Disclosure*, and *Fyfe*, and further in view of United States Patent Application Publication Number 20030159390 to Fonseca [hereinafter *Fonseca*]. Claim 54 is rejected under 35 USC 103(a) as allegedly being unpatentable over *Haas* in view of *Madden*, *Disclosure*, and *Fyfe*. Claim 56 is rejected under 35 USC 103(a) as allegedly being unpatentable over U.S. Patent No. 5,749,178 to Garmon [hereinafter *Garmon*] in view of *Disclosure*. Claims 57 and 66 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Carson* in view of U.S. Patent No. 4,730,023 to Sato [hereinafter *Sato*]. Claim 69 is rejected under 35 USC 103(a) as allegedly being unpatentable over *Carson* in view of *Sato* and *Disclosure*. Claim 63 is rejected under 35 USC 103(a) as allegedly being unpatentable over *Garmon* in view of *Disclosure*. Claims 64 and 65 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Carson* in view of *Sato* and *Disclosure*, and further in view of *Madden*. Claims 67 and 68 are rejected under 35 USC 103(a) as being unpatentable over *Carson* in view of *Sato* and *Disclosure* and further in view of *Madden*. Claims 58-60 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Garmon* in view of *Disclosure* and further in view of *Fyfe*.

Claims 61 and 62 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Garmong* in view of *Disclosure*, and further in view of *Makami*. Claims 57, 66 and 69 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond*, *Disclosure*, and further in view of *Carson*. Claims 57, 66 and 69 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond*, *Disclosure*, and further in view of *Carson*. Claims 64 and 65 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond* and *Disclosure*, and further in view of *Carson*. Claims 70 and 71 are rejected under 35 USC 103(a) as allegedly being unpatentable over *Haas* in view of *Disclosure* and *Sato*, and further in view of *Fonseca*.

Appellant respectfully traverses the rejections of Claims 1, 14, 27, 30, 52, 56, 57 and 70 for the reasons discussed below. Any of the dependent claims not specifically addressed herein are believed to be allowable based on their respective dependence from independent Claims 1, 14, 27, 30, 52, 56, 57 and 70, as well as for the respective features recited therein.

I. Whether independent Claims 1 and 14 are unpatentable under 35 U.S.C. § 103(a) over *Diamond* in view of *Applicant's disclosure*

Appellant respectfully traverses the rejections of Claims 1 and 14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Diamond* in view of *Disclosure*.

Claim 1 recites, *inter alia*:

“spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil; and once cured, securing said blast resistant panel to a wall of said structure so that the blast resistant panel extends from at least two opposing edges of the wall of said structure with a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter of the wall of said structure.”

Claim 14 recites, *inter alia*:

“a cured layer of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil, and

fastener elements for securing said cured layer to a wall of a structure so that the cured layer extends from at least two opposing edges of the wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure,

said blast-resistant panel being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.”

Support for the foregoing features is clearly provided by Appellant’s FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly below in Appellant’s FIG. 2, an embodiment of the blast resistant panel 100 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 16 of *Diamond* shows a layer of solidified compressible material used to make a compressible structure 816 for temporary placement directly against a glass pane of a window in a wall to absorb forces from high winds and wind-borne debris to protect the glass pane from shattering and damage. See *Diamond*, col. 1, lines 14-18; and col. 13, lines 29-40.

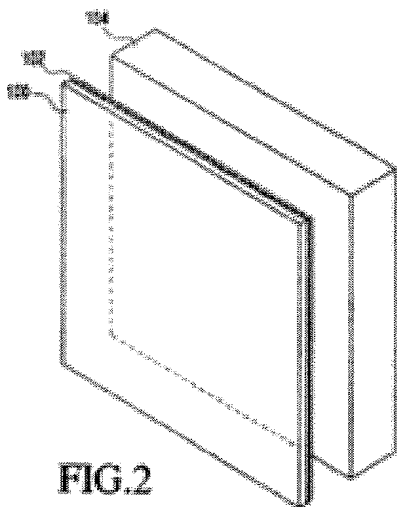


FIG.2

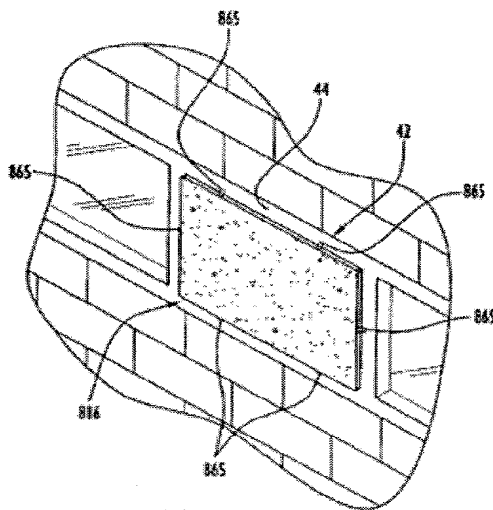


FIG.16

The Examiner's assertion that *Diamond*, and specifically elements "920A or 920B only, not both layers 920B and 920A" (emphasis added by Appellant) show the "spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil" is improper and without basis. See Office Action, p. 2, lines 3-8. Layers 920A and 920B are two separate layers of 250 mil or more that are required to make up the complete embodiment of the invention shown in FIG. 14 of *Diamond*. Therefore, there is no teaching, suggestion, or motivation in *Diamond* that would lead one of skill in the art to deconstruct the invention in *Diamond* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have lead a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention.

As seen from a side-by-side comparison of Appellant's FIG. 2 with *Diamond*'s FIG. 16 presented above, clearly *Diamond* fails to teach or suggest the aforementioned features of the independent Claims 1 and 14. Specifically, and as the Office Action admits, *Diamond* does not teach or suggest forming a "a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil." See Office Action at p. 3, lines 7-8. In addition, contrary to the Office Action, *Diamond* does not disclose "securing said blast resistant panel to a wall of said structure so that the blast resistant panel extends from at least two opposing edges of the wall of said structure with a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter of the wall of said structure." See Office Action at p. 4, lines 1-4. Instead, *Diamond* forms a compressible structure with a required minimum thickness of 0.5 inches (500 mil) that is to be temporarily positioned against a glass pane(s) in a window that is

disposed in a wall in a building to cushion and absorb forces from high winds and wind-borne debris to protect the glass panes from shattering and damage. *See Diamond*, FIGs. 4-9, 11, 12, 16-18 and 22; paras. [0003] and [0009]. However, even if we assume the Examiner's assertion of a single layer with a thickness of 0.25 inches (250 mil) is correct, Claim 1 now recites a range that is less than 0.25 inches, which is outside of the required thickness range of 0.5 inches (500 mil) disclosed in *Diamond*. *See Id.* at col. 7, lines 29-37. As a result, *Diamond*'s solidified compressible structure 816 not only does not extend from at least two opposing sides of the wall of the structure, i.e., from a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter of the wall of said structure, as recited in Claims 1 and 14, it also does not disclose the entire panel thickness range of from about 100 mil to less than 250 mil.

While the invention in *Diamond* operates to temporarily protect the glass pane from damage (i.e., breaking) due to storms and wind-borne debris, *see Id.*, it is **not** a blast resistant panel as recited in Claim 1. In fact, the compressible structure in *Diamond* would itself become shrapnel, if an explosion as described in the instant Application were to occur near a building with the compressible structure covering the glass panes in a window in a wall. There is no teaching or suggestion in *Diamond* that the compressible structure therein is a blast resistant panel having a thickness in the range of about 100 mil to less than 250 mil or that the compressible structure extends from at least two opposing edges of the wall of said structure with a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter of the wall of said structure. In fact, it appears that for the compressible structure 816 to be effective, it must absorb the energy and not flex toward the glass when struck by debris, since

flexing into the glass would cause the glass to break. In contrast, the blast resistant panel of the present invention is not compressible and is designed to flex when subjected to a blast.

Regarding the Examiner's assertion of it being obvious engineering design choice to modify *Diamond* in view of Appellant's Disclosure, *see* Office Action, p. 3, lines 9-14, Appellant respectfully disagrees. As noted above, one of skill in the art would not be motivated to modify *Diamond* to use a total thickness for the panel that is a "little more/less than 250 mill," since the minimum required thickness disclosed in *Diamond* is 0.5 inches (500 mil). *See Diamond*, col. 7, lines 29-37. In addition, and contrary to the Examiner's assertion, the proposed modified *Diamond* would not provide the same function, since it would be too thin to provide the necessary level of cushioning needed to protect against the wind-borne debris contemplated by *Diamond*, and, as noted above, would be totally inadequate to provide the function and protection of the blast-resistant panel of Claims 1 and 14. *See Ex parte Stephen R. Rohrer and Joseph M. Endter*, (BPAI 2010) (Appeal No. 2009-001292) at 5 (citing *Ex parte Clapp*, 227 USPQ 972, 973 (BPAI 1985)) ("To support a conclusion that a claim is directed to obvious subject matter, prior art references must suggest expressly or impliedly the claimed invention or an Examiner must present a "convincing line of reasoning" as to why one of ordinary skill in the art would have found the claimed invention to have been obvious."); and (citing *Id.* at 973.) ("When determining whether a rejection based on design choice is appropriate, the Examiner must review the Specification and ascertain *if the limitation in question* is disclosed as serving any advantage or particular purpose, or whether it solves a stated problem. The Examiner also should explain the reasoning used to determine that the prior art would have performed equally as well as the claimed invention. These two steps help present the aforementioned 'convincing line of reasoning.'") The Examiner has failed to at least explain how the compressible structure of *Diamond*, as modified, "would have performed equally as well as the claimed invention."

Therefore, the Examiner has failed to establish a *prima facie* case of obviousness of claims 1 and 14.

Further regarding Claim 14, the Examiner's assertion that *Diamond* is inherently able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking is wholly unsupported. *See* Office Action, lines 3-5. *Diamond* is entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion. *See Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the Examiner has failed to establish a *prima facie* case of obviousness and the rejection's proposed modification of the *Diamond* apparatus to arrive at the features of Appellant's Claims 1 and 14 evidently would have impermissibly modified the operation of the *Diamond* apparatus. The rejection is therefore untenable. Withdrawal of the rejection is respectfully requested.

II. Whether the Rejection of Independent Claims 1 and 14 Under 35 U.S.C. § 103(a) Is Based on Impermissible Hindsight

Appellant respectfully traverses the rejection of Claims 1, 2, 10, and 14 under 35 U.S.C. § 103(a) because the rejection is based on impermissible hindsight, gleaned solely from Appellant's disclosures (including Appellant's specification, drawings, claims, and abstract). Put another way, it is apparent that the Examiner, looking at *Diamond*, would have

not been prompted to modify *Diamond* without the benefit of Appellant's disclosures. Such use of Appellant's disclosures is deemed impermissible hindsight reasoning and is an improper basis for rejecting claims under 35 U.S.C. § 103(a).

Claim 1 recites, *inter alia*:

“spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil;”

Claim 14 recites, *inter alia*:

“a cured layer of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;”

As noted above, the Examiner appropriately acknowledges that *Diamond* fails to teach or suggest the foregoing features of each of the independent claims. See Office Action, p. 3, lines 7-8 (“*Diamond* does not show the thickness in the range of about 100 mil to less than 250 mil.”).

It is not clear from the rejection, but it appears that the rejection's statement regarding the thickness of the *Diamond* panel is an attempt to rationalize from *Diamond's* disclosure why one having ordinary skill in the art would have “deconstructed” the *Diamond* panel to achieve Appellant's claimed features. However, the thickness of *Diamond's* panel, assuming, *arguendo*, that the rejection's characterization is accurate, is not seen to be relevant to Appellant's claimed features provided above. Nor is the thickness of *Diamond's* panel seen to provide any rationale whatsoever for modifying “the panel's thickness,” let alone adjusting the thickness of the panel to achieve Appellant's claimed features. Thus, the rejection's proposed modification of the *Diamond* panel clearly is gleaned solely from impermissible hindsight using Appellant's disclosures.



Moreover, *Diamond* discloses that the panel is compressible, has a preferred thickness of 1.0 to 4.0 inches, and operates to form an elastomeric, spongy cushion preventing shattering or fracturing of the underlying one or more glass panes. See *Diamond*, col. 7, lines 30-37. Thus, *Diamond* establishes that the solidified compressible material 20 is compressible to cushion the impact of flying debris, but not flexible, since being flexible would result in broken windows. As such, one having ordinary skill in the art would recognize that there would be no need to modify the *Diamond* panel “to show the thickness in the range of about 100 mil to less than 250 mil,” as proposed in the rejection. Accordingly, for this additional reason, the rejection’s proposed modification of the *Diamond* panel clearly is based on impermissible hindsight using Appellant’s disclosures.

In view of the foregoing, the rejection’s proposed modification is untenable and the rejection should therefore be withdrawn.

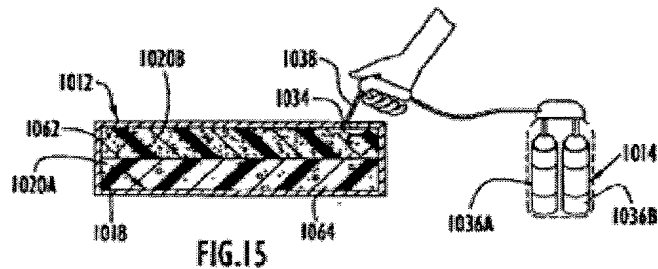
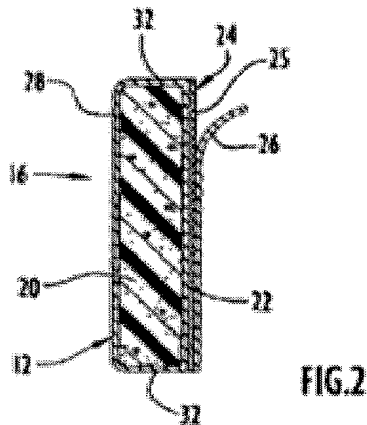
III. Whether, in rejecting independent Claims 1 and 14 under 35 U.S.C. § 103(a), the proposed modification of *Diamond* impermissibly renders *Diamond* unsatisfactory for its intended purpose

Appellant respectfully traverses the rejection of Claims 1 and 14 under 35 U.S.C. § 103(a) because the proposed modification of *Diamond* impermissibly renders *Diamond* unsatisfactory for its intended purpose.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

As seen clearly below in FIGs. 2 and 15 of *Diamond*, the solidified compressible material 20, and 1020A plus 1020B (see also 920A plus 920B in FIG. 14), respectively, both have the

same required total minimum thickness, i.e., 0.5 inches, regardless of whether one or two different layers of compressible material are used to make the panel.



The Examiner's assertion that *Diamond*, and specifically elements "920A or 920B only, not both layers 920B and 920A" (emphasis added by Appellant) show the "spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil" is improper and without basis. See Office Action, p. 2, lines 3-8. Layers 920A and 920B are two separate layers that are required to make up the complete embodiment of the invention shown in FIG. 14 of *Diamond*. Therefore, there is no teaching, suggestion, or motivation in *Diamond* that would lead one of skill in the art to deconstruct the invention in *Diamond* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have lead a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. In addition, by deconstructing the invention in *Diamond* to use only one half of the invention as suggested by the Examiner, the Examiner has rendered the invention in *Diamond* to be inoperative for its intended purpose, since

the minimum required thickness for any embodiment of the invention in *Diamond* is 0.5 inches or 500 mil, which is twice the thickness recited in Claim 1. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In view of the foregoing, the proposed modification of *Diamond* is untenable.  
Withdrawal of the rejection is respectfully requested.

IV. Whether Claim 14 is unpatentable under 35 U.S.C. § 103(a) over Santos in view of Diamond and Disclosure.

Appellant respectfully traverses the rejection of Claim 14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Santos in view of Diamond and Disclosure.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Claim 14 recites, inter alia:

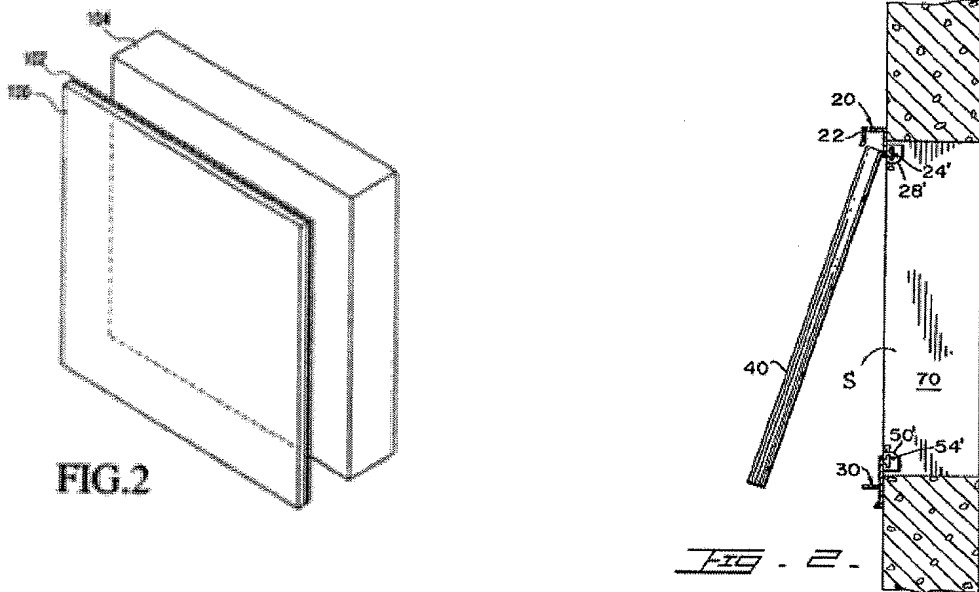
“a cured layer of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil, and

fastener elements for securing said cured layer to a wall of a structure so that the cured layer extends from at least two opposing edges of the wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure,

said blast-resistant panel being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.”

Support for the foregoing features is clearly provided by Appellant’s FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly below on the left in Appellant’s FIG. 2, an embodiment of the blast resistant panel 100 is seen in position for installation on and

to cover a wall 104 of a structure. In contrast, FIG. 2 of *Santos*, shown below on the right, shows a hurricane shutter system 10 that uses a flat rectangular board for temporary placement in a top rail assembly 20 located immediately above the exterior of a top of an aperture 70 and a bottom rail assembly 30 located immediately below the exterior of a bottom of the aperture 70 on a wall to resist inclement weather and flying debris to protect a window in the aperture 70 from shattering and damage. See *Santos*, col. 2, lines 4-12; and col. 3, lines 1-5.



The Examiner admits that *Santos* fails to teach or suggest all of the elements of Claim 14. Specifically, *Santos* does not show the panel being made of elastomeric material having a thickness in the range of about 180 [sic] mil to less than 250 mil, the material being polyurethane. See Office Action, p. 10, lines 10-11. The Examiner's modification of *Santos* with *Diamond* and *Disclosure* renders it inoperative for its intended purpose. Even if one were to accept Examiner's improperly based assertion that it "would have been obvious . . . to modify *Santos*' structure to show the panel being made of elastomeric material about 250 mil, the material being polyurethane as taught by *Diamond* because the thickness and

elastomeric material would enable the panel to withstand and protect a window structure . . . , and having the thickness in the range of about 180 [sic] mil to less than 250 mil would have been an obvious matter of engineering design since a thickness dimension little more/less than 250 mil would provide the same function . . .”, *Diamond* does not teach or suggest a complete panel thickness that is less than 500 mil (Diamond column 7, line 30). The lower end of the above range in Claim 14 is actually 100 mil. In fact, as discussed above in relation to Claims 1 and 14, deconstructing *Diamond* to only use a 0.25 inch layer renders it inoperative for its intended purpose of stopping wind-borne debris, which would mean the combination of *Santos* and *Diamond* would also be inoperative for its intended purpose of stopping wind-borne/flying debris. See *Santos*, col. 2, lines 8-9; and col. 3, lines 1-2. Modifying *Santos* with *Diamond* as asserted by the Examiner would result in a panel that will not be operative for its intended purpose. Therefore, there is no teaching, suggestion, or motivation in *Santos* or *Diamond* that would lead one of skill in the art to modify the invention in *Santos* with *Diamond* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have lead a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. In addition, by modifying *Santos* with the deconstructed invention in *Diamond* to use only one half of the solidified compressible material 20, the Examiner has rendered the invention in *Santos* to be inoperative for its intended purpose, since the minimum required thickness for any embodiment of the invention in *Diamond* is 0.5 inches or 500 mil, which is twice the thickness recited in Claim 1. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion

or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In addition, Claim 14 recites, *inter alia*, “the blast-resistant panel extends from at least two opposing edges of the wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure,” and “said blast resistant panel being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking,” which neither *Santos* nor *Diamond* teach or suggest. Therefore, the Examiner’s assertion that *Santos* as modified shows all the claimed structural limitations, and is inherently able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking is wholly unsupported. *See* Office Action, page 11, lines 5-7. Since both *Santos* and *Diamond* are entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. *See Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the proposed modification of *Santos* is untenable. Withdrawal of the rejection is respectfully requested.

V. Whether Claim 27 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Madden, Carson* and *Disclosure*.

Appellant respectfully traverses the rejection of Claim 27 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Madden, Carson* and *Disclosure*.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Claim 27 recites, *inter alia*:

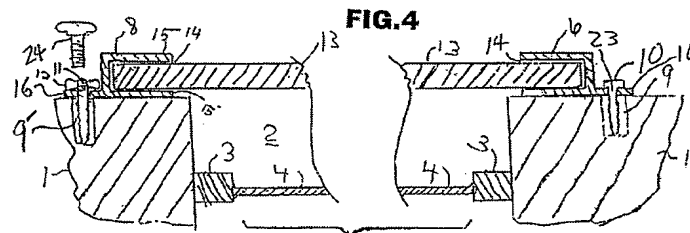
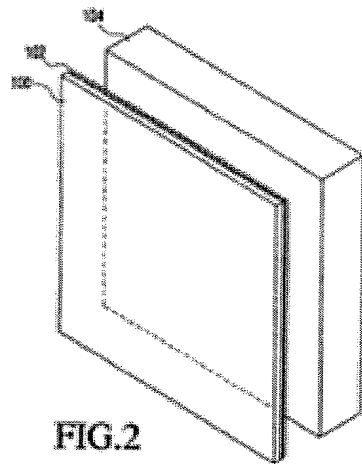
“one or more flexible, blast-resistant panels having a predetermined thickness in a range between about 100 mil and less than 250 mil and constructed of an elastomeric material sprayed onto a fabric reinforcing layer,

said one or more flexible, blast-resistant panels having a steel channel fastened around a periphery thereof; and

a plurality of fasteners adapted to fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the masonry wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,

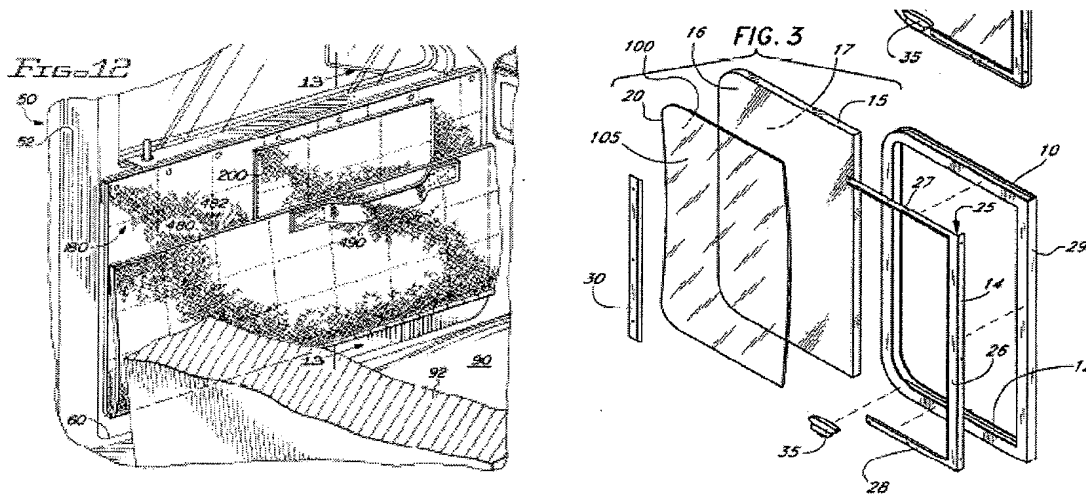
said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly below in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4, below, of *Haas* shows a rigid rectangular panel 13 (e.g., ¾ inch plywood or corrugated fiberglass-loaded plastic) mounted in channels 6, 8 (5, 7 not shown in FIG. 4, but shown in FIG. 1 as the top and bottom frame portions) immediately around the exterior of a window opening 2 and over a window frame 3 and a glass pane 4 of a window in a wall 1 to protect them from storms. See *Haas*, Abstract; col. 1, lines 6-9; and col. 2, lines 44-45.



The Examiner admits that *Haas* fails to teach or suggest “the plastic being a flexible, blast-resistant elastomeric material having a predetermined thickness in a range between about 100 mil and to less than 250 mil, the fiber being a fabric reinforcing layer.” See Office Action, p. 12, lines 1-3. In addition, *Madden* and *Carson*, alone or in combination, fail to teach all of the elements of Claim 27. As seen below in FIG. 12 of *Madden*, a flexible, bullet-proof curtain 180 made of multiple cloth layers and/or layers of fibrous materials held together by flexible resins (see *Madden*, Abstract; col. 5, line 45 to col. 6, line 3) is shown secured below a window to a door in a vehicle; and in FIG. 3 of *Carson*, an acrylic, anti-vandalism protective sheet 105 with a thickness sufficient to be self-supporting yet flexible and inhibit marking of the window 15 by vandals (see *Carson*, Abstract; col. 3, lines 45-60) is shown for use on the interior of a public transportation vehicle to protect the window from graffiti and scratching.





The Examiner's modification of *Haas* with *Madden*, *Carson* and *Disclosure* renders it inoperative for its intended purpose. Even if one were to accept Examiner's improperly based assertion that it "would have been obvious . . . to modify Hass's [sic] structure to show the plastic being made of elastomeric material, the fiber being a fabric reinforcing layer because having elastomeric material surrounding fiber layers to form a protective device would enable the device to withstand tremendous impact forces as taught by Madden Jr, and having the thickness of the panel in the range of 100-250 mil as taught by Carson would provide proper protection for the structure against vandalism, and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension little more/less than 250 mil would provide the same function . . .", modifying the rigid panel of *Haas* to be flexible as in *Madden* and thin as in *Carson* to "provide proper protection for the structure against vandalism," as asserted by the Examiner would result in a panel that would not be operative for *Haas*' intended purpose. No one of skill in the art would be lead to Carson, since it only provides protection against graffiti and scratches from vandalism and has nothing to do with impact absorption or blast resistance. *Haas* requires a rigid panel that is spaced away from the window to minimize flexing of the

panel toward the window to prevent the panel from breaking the glass. *See Haas*, col. 3, lines 5-7. Modifying *Haas* to be a flexible curtain as in *Madden* and as thin as in *Carson*, would create a thin, flexible panel that would flex toward and break the glass when struck with flying debris, since, “[a]n inherent advantage of the use of flexible fibrous layers is the ability of the flexible material to “give” as it absorbs the shock from a bullet projectile. The “give” in the flexible curtain may be contrasted with a relatively solid material and the inability of the relatively solid material to “give” and thus to depend only on the inherent strength or thickness of the solid material to absorb the energy and shock of a bullet projectile.” *See Madden*, col. 6, lines 12-19. Therefore, there is no teaching, suggestion, or motivation in *Haas* or *Madden* or *Carson* that would lead one of skill in the art to modify the invention in *Haas* with *Madden* and *Carson* as suggested by the Examiner. *See, Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have lead a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. In addition, by modifying *Haas* with *Madden* and *Carson* to be a thin, flexible panel, the Examiner has rendered the invention in *Haas* to be inoperative for its intended purpose, since the panel in *Haas* needs to be rigid and of a sufficient thickness (e.g., ¾ inch – 750 mil) to prevent it from flexing and breaking the window when struck. The ¾ inch – 750 mil thickness in *Haas* is three times the thickness recited in Claim 27. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In addition, Claim 27 recites, *inter alia*, “fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the masonry wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,” and “said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking,” which neither *Hass* nor *Madden* nor *Carson* teach or suggest. Therefore, the Examiner’s assertion that *Hass* as modified shows all the claimed structural limitations, and is able to function to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking is wholly unsupported. *See* Office Action, p. 13, lines 1-3. Since *Hass*, *Madden* and *Carson* are all entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. *See Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

VI. Whether Claim 30 is unpatentable under 35 U.S.C. § 103(a) over Haas in view of Diamond and Disclosure.

Appellant respectfully traverses the rejection of Claim 30 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond* and *Disclosure*.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Claim 30 recites, *inter alia*:

“a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;  
a channel attached around a periphery of the flexible, blast-resistant panel; and  
a plurality of fasteners to fasten said channel to a wall of a structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure  
said flexible, blast-resistant panel being to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and said flexible, blast-resistant panel being to impede passage through said blast-resistant panel of wall fragments resulting from the explosive blast.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly above in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4 of *Haas* (see above discussion of Claim 27) shows a rigid rectangular panel 13 (e.g., ¾ inch plywood or corrugated fiberglass-loaded plastic) mounted in channels 6, 8 (5, 7 not shown in FIG. 4, but shown in FIG. 1 as the top and bottom frame portions) immediately around the exterior of a window opening 2 and over a window frame 3 and a glass pane 4 of a window in a wall 1 to protect them from storms. See *Haas*, Abstract; col. 1, lines 6-9; and col. 2, lines 44-45. FIG. 16 of *Diamond* (see

above discussion of Claims 1 and 14) shows a layer of solidified compressible material used to make a compressible structure 816 for temporary placement directly against a glass pane of a window in a wall to absorb forces from high winds and wind-borne debris to protect the glass pane from shattering and damage. *See Diamond*, col. 1, lines 14-18, and col. 13, lines 29-40.

The Examiner admits that *Haas* fails to teach or suggest “the plastic being a flexible, blast-resistant elastomeric material having a predetermined thickness in a range between about 100 mil and to less than 250 mil.” *See* Office Action, p. 14, lines 9-10. In addition, *Diamond*, fails to teach all of the elements of Claim 30. Specifically, and contrary to the Examiner’s assertion, *Diamond* does not show “a flexible blast resistant elastomer polyurethane panel . . .,” *see Id.* at line 11, instead, as described above, *Diamond* is a solidified compressible material that does not flex, but instead is placed against windows to cushion and absorb forces from high winds and wind-borne debris without transferring the forces to and breaking the window. *See Diamond*, col. 1, lines 14-19; and col. 2, lines 23-30. Therefore, *Haas*, *Diamond* and *Disclosure* – to the extent that it may be properly applied to the rejection – alone or in combination, do not teach or suggest forming “a flexible blast resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil” that is “sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure,” as recited in Claim 30, and, as discussed above in relation to Claims 1 and 14, the Examiner’s deconstruction of *Diamond* renders it inoperative for its intended purpose.

The Examiner’s modification of *Haas* with the inoperative portion of *Diamond* also renders it inoperative for its intended purpose. Even if one were to accept Examiner’s improperly based assertion that it “would have been obvious . . . to modify *Haas*’ structure to

show the panel being made of elastomeric material about 250 mil, the material being polyurethane as taught by *Diamond* because the thickness and elastomeric material would enable the panel to withstand and protect a window structure . . . , and having the thickness in the range of about 180 [sic] mil to less than 250 mil would have been an obvious matter of engineering design since a thickness dimension little more/less than 250 mil would provide the same function . . .”, *Diamond* does not teach or suggest a complete panel thickness that is less than 500 mil (*Diamond* column 7, line 30). The correct lower end of the range in claim 30 is actually 100 mil. In fact, as discussed above in relation to Claims 1 and 14, deconstructing *Diamond* to only use a 0.25 inch layer renders it inoperative for its intended purpose of stopping wind-borne debris, which would mean the combination of *Haas* and *Diamond* would also be inoperative for its intended purpose to prevent storm debris from penetrating the rigid panel and breaking the glass. See *Haas*, col. 3, lines 5-7. Modifying *Haas* with *Diamond* as asserted by the Examiner would result in a panel that will not be operative for its intended purpose. Therefore, there is no teaching, suggestion, or motivation in *Haas* or *Diamond* that would lead one of skill in the art to modify the invention in *Haas* with *Diamond* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have lead a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In addition, Claim 30 recites, *inter alia*, “fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the masonry wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,” and “said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking,” which neither *Hass* nor *Diamond* teach or suggest. Therefore, the Examiner’s assertion that *Hass* as modified shows all the claimed limitation [sic], and is able to function to resist an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and the flexible blast resistant panel being to impede passage through the panel of wall fragments resulting from the explosive blast is wholly unsupported. See Office Action, p. 15, lines 3-5. Since *Hass* and *Diamond* are entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. See *Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

VII. Whether Claim 52 is unpatentable under 35 U.S.C. § 103(a) over Haas in view of Madden, Fyfe and Disclosure.

Appellant respectfully traverses the rejection of Claim 14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Madden, Fyfe and Disclosure*.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Independent Claim 52 recites, *inter alia*:

“a cured, blast-resistant panel of a sprayed elastomeric material having a fabric reinforced layer embedded therein, the cured, blast-resistant panel having a predetermined thickness between about 100 mil and less than 250 mil, a percent elongation at break in a range of about 400-800%, the fabric reinforcing layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inches by 0.25 inches and a tensile strength of about 1200 psi by 1200 psi; and

a steel channel subsystem configured to be attached around a periphery of the cured panel and the steel channel subsystem and the periphery of the cured panel fastenable to a wall of a structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall with the cured, blast-resistant panel.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly above in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4 of *Haas* (see above discussions of Claims 27 and 30) shows a rigid rectangular panel 13 (e.g., ¾ inch plywood or corrugated fiberglass-loaded plastic) mounted in channels 6, 8 (5, 7 not shown in FIG. 4, but shown in FIG. 1 as the top and bottom frame portions) immediately around the exterior of a window opening 2 and over a window frame 3 and a glass pane 4 of a window in a wall 1 to protect them from storms. See *Haas*, Abstract; col. 1, lines 6-9; and col. 2, lines 44-45. As seen above in FIG. 12 of *Madden* (see above discussions of Claims 27 and 30), a flexible, bullet-proof



curtain 180 made of multiple cloth layers and/or layers of fibrous materials held together by flexible resins (*see Madden*, Abstract; col. 5, line 45 to col. 6, line 3) is shown secured below a window to a door in a vehicle.

The Examiner admits that *Haas* does not show the plastic being an elastomeric material, the fiber being a fabric reinforcing layer, the panel having a thickness of about 100 to less than 250 mil, a percent elongation at break in a range of about 400-800%, the fabric layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inch by 0.25 inch. *See* page 17, lines 13-17. In addition, *Diamond* and *Fyfe*, either alone or in combination, fail to teach all of the elements of Claim 52. Contrary to the Examiner's assertions, at a minimum, there is no teaching or suggestion in *Haas* or *Madden* that would motivate one of skill in the art to create the combination, or to believe that the "storm window panel" in *Haas* is blast-resistant, or that *Madden* discloses the fiber layer being an open grid pattern. "The mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)" (*see*, MPEP §2143.01). In the present case, the prior art does not teach or suggest the desirability of the claimed combination. Indeed, one of ordinary skill in the art would not look to *Madden* to modify *Haas* in an attempt to create Applicant's claimed invention. Applying the flexible nature of the fabric curtain in *Madden* to the rigid panels of *Haas* would, as discussed above, result in a structure that would, in the event of a blast, elastically deform into the glass pane, causing breakage of the very item the reference intended to protect. Likewise, "[i]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." (*See, In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, \_\_\_, (Fed. Cir. 1992), citing *In re Gorman*, 933 F.2d 982, 987,

18 USPQ2d 1885, 1888 (Fed. Cir. 1991)). Despite this prohibition, hindsight is exactly what the Examiner used to “piece together” this rejection.

As can be readily seen from the above discussion, *Madden*, *Fyfe* or *Disclosure* – to the extent that it may be properly applied to the rejection – alone or in combination, fail to make up for the deficiency of *Haas* and also fail to teach or suggest all of the elements of Claim 52. Therefore, the *Haas*, *Madden* and *Fyfe* combination fails to teach or suggest Applicant’s claimed invention as recited in Claim 52.

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

VIII. Whether Claim 56 is unpatentable under 35 U.S.C. § 103(a) over *Garmong* in view of *Disclosure*.

Appellant respectfully traverses the rejection of Claim 56 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Garmong* in view of *Disclosure*.

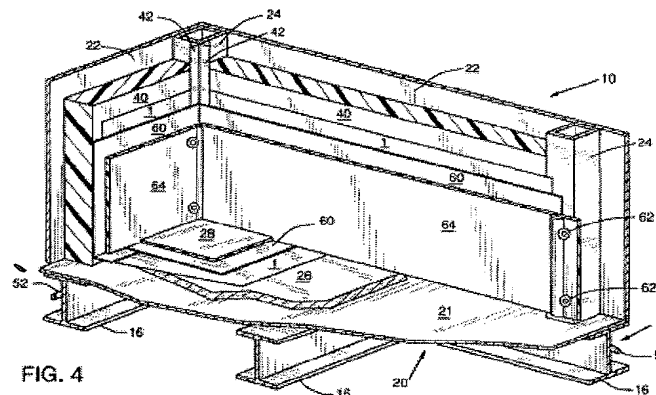
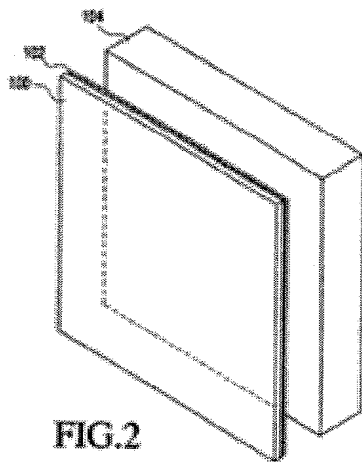
If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Independent Claim 56 recites, *inter alia*:

“spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil; and”

“once cured, securing said blast resistant panel to an interior surface of an exterior wall in a room of said structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure, the blast resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion, the explosion impacting said exterior wall first, and then impacting said blast resistant panel.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly above in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4 of *Garmong*, below, shows a rubber or polymeric material layer 1 inserted between the aluminum shell 36 (wall 22) and the magnetic shield material 60 to prevent galvanic corrosion from occurring. See *Garmong*, col. 6, lines 13-23. However, *Garmong* does not disclose a thickness of the rubber or polymeric material layer 1 or that it is secured to an interior surface of an exterior wall and, in fact, indicates that the rubber or polymeric material layer 1 could be replaced by coating the magnetic shield material 60 or the aluminum shell 36 with a polymeric or other corrosion/insulating material that would prevent galvanic corrosion. See *Id.* As a result, it is not clear in *Garmong* how thick the layer or coating has to be to be effective.



The Examiner admits that *Garmong* does not show the panel being formed by first sprayed, and then cured, the panels handed a thickness in the range of 100 mil to 250 mil. See

Office Action, page 20, lines 14-15. In addition, Garmong does not teach or suggest that “once cured, securing said blast resistant panel to an interior surface of an exterior wall in a room of said structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure, the blast resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion, the explosion impacting said exterior wall first, and then impacting said blast resistant panel,” as recited in Claim 56. Instead, based on FIG. 4 and the description in *Garmong*, it appears that the rubber or polymeric material layer 1 is merely inserted between an insulation layer 40 and/or a support member 24 and the magnetic shield material 60, and does not actually contact, so it is not secured to, the interior surface of the exterior wall 36, as asserted by the Examiner. In addition, *Disclosure* – to the extent that it may be properly applied to the rejection – fails to make up for the deficiency of *Garmong*. Therefore, the *Garmong* and *Disclosure* combination fails to teach or suggest “securing said blast resistant panel to an interior surface of an exterior wall in a room of said structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure, the blast resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion, the explosion impacting said exterior wall first, and then impacting said blast resistant panel,” as currently recited in Claim 56. Therefore, since not every element of the claim is taught or suggested, the Examiner has failed to establish a *prima facie* case of obviousness.

In addition, there is also no teaching, suggestion, or motivation in *Garmong* that would lead one of skill in the art to modify the invention in *Garmong* with *Disclosure* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed. Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01). Since *Garmong* is entirely silent as to several of the above features, and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. See *Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

IX. Whether Claim 57 is unpatentable under 35 U.S.C. § 103(a) over *Carson* in view of *Sato*

Appellant respectfully traverses the rejection of Claim 70 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Carson* in view of *Sato*.

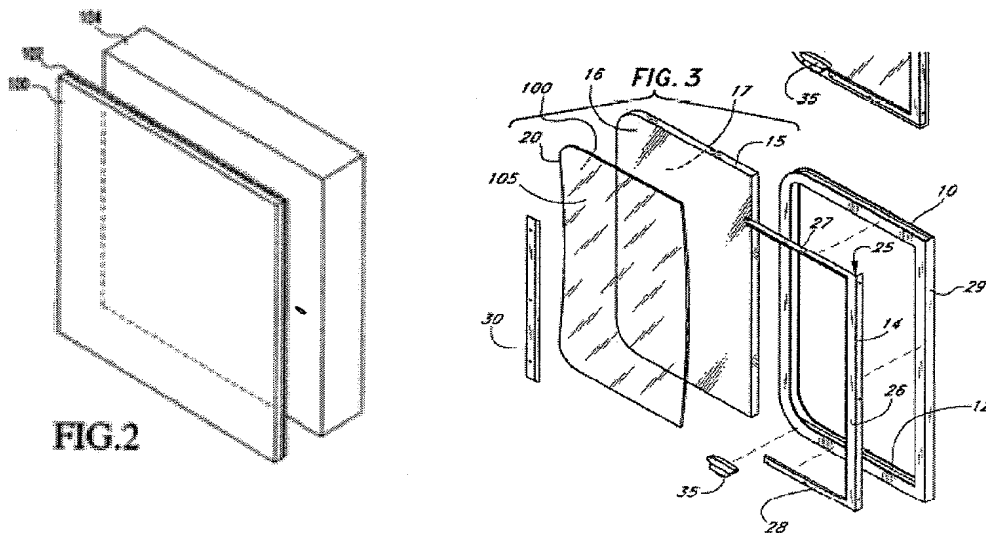
Claim 57 recites, *inter alia*:

“a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;

a channel attached around a periphery of the flexible, blast-resistant panel; and

a plurality of fasteners to fasten said channel to a wall of a structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly below in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 3 of *Carson*, an acrylic, anti-vandalism protective sheet 105 with a thickness sufficient to be self-supporting yet flexible and inhibit marking of the window 15 by vandals is shown for use on the interior of a public transportation vehicle to protect the window from graffiti and scratching (*see Carson*, Abstract; col. 3, lines 45-60).



The examiner admits that *Carson* does not want to show the panel being made of acrylic elastomeric material. See Office Action, page 22, line 3. In addition, *Carson* does not teach or

suggest either the blast resistant panel “having a predetermined thickness in the range of about 100 mil to less than 250 mil” or having “the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more,” as recited in Claim 57. In addition, *Sato* fails to make up for the deficiency of *Carson* and also fails to teach or suggest all of the elements of Claim 57. Therefore, *Carson* and *Sato* in combination fails to teach or suggest “the blast resistant panel “having a predetermined thickness in the range of about 100 mil to less than 250 mil” or having “the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more,” as recited in Claim 57. Therefore, since not every element of the claim is taught or suggested, the Examiner has failed to establish a *prima facie* case of obviousness.

In addition, there is also no teaching, suggestion, or motivation in *Carson* that would lead one of skill in the art to modify the window protector sheet invention in *Carson* for protecting the interior vehicle windows from passenger graffiti and vandalism with *Sato*, as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed

Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. No such suggestion, motivation or teaching is present in either *Carson* or *Sato*.

In addition, Claim 57 recites, *inter alia*, “fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the masonry wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,” and “said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking,” which neither *Carson* nor *Sato* teach or suggest. Therefore, the Examiner’s assertion that *Carson* as modified shows all the claimed limitation, and is able to function to resist an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and the flexible blast resistant panel being to impede passage through the panel of wall fragments resulting from the explosive blast is wholly unsupported. *See* Office Action, p. 22, lines 9-12. Since *Carson* and *Sato* are entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. *See Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)



In view of the foregoing, the proposed modification of *Carson* is untenable. Withdrawal of the rejection is respectfully requested.

X. Whether Claim 57 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Diamond*, *Disclosure* and *Carson*

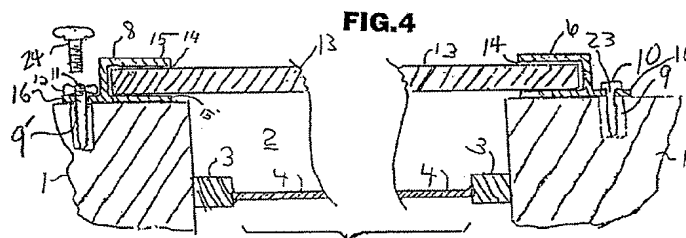
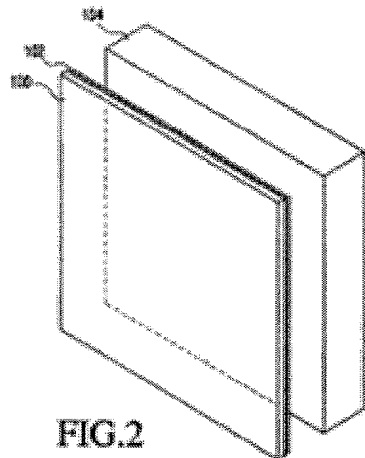
Appellant respectfully traverses the rejection of Claim 57 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Diamond*, *Disclosure* and *Carson*.

Claim 57 recites, *inter alia*:

“a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;  
a channel attached around a periphery of the flexible, blast-resistant panel; and  
a plurality of fasteners to fasten said channel to a wall of a structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more.”

Support for the foregoing features is clearly provided by Appellant's FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly above in Appellant's FIG. 2, an embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4 of *Haas* (see above discussion of Claim 27) shows a rigid rectangular panel 13 (e.g., ¾ inch plywood or corrugated fiberglass-loaded plastic) mounted in channels 6, 8 (5, 7 not shown in FIG. 4, but shown in FIG. 1 as the top and bottom frame portions) immediately around the exterior of a window opening 2 and over a window frame 3 and a glass pane 4 of a window in a wall 1 to protect them from storms. See *Haas*, Abstract; col. 1, lines 6-9; and col. 2, lines 44-45. FIG. 16 of *Diamond* (see above discussion of Claims 1 and 14) shows a layer of solidified compressible material used to

make a compressible structure 816 for temporary placement directly against a glass pane of a window in a wall to absorb forces from high winds and wind-borne debris to protect the glass pane from shattering and damage. *See Diamond*, col. 1, lines 14-18; and col. 13, lines 29-40.



The Examiner admits that *Haas* fails to teach or suggest “the plastic being a flexible, blast-resistant elastomeric material having a predetermined thickness in a range between about 100 mil and to less than 250 mil.” *See Office Action*, p. 27, lines 1-2. In addition, *Diamond* and *Carson* fail to teach all of the elements of Claim 57. Specifically, and contrary to the Examiner’s assertion, although *Diamond* does disclose a layer of elastomeric material, it does not show “a flexible, blast-resistant panel of a sprayed elastomeric material . . .,” *see Id.* at line 3, instead, as described above, *Diamond* is a solidified compressible material that does not flex, but instead is placed against windows to cushion and absorb forces from high winds and wind-borne debris. *See Diamond*, col. 1, lines 14-19; and col. 2, lines 23-30. Although *Carson* discloses embodiments of a protective acrylic panel with thicknesses of 100 mil and 168 mil, it does not teach or suggest “a flexible blast resistant elastomeric polyurethane. “Therefore, *Haas*,

*Diamond*, *Carson* and *Disclosure* – to the extent that it may be properly applied to the rejection – alone or in combination, do not teach or suggest forming “a flexible blast resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil” that is “sized to extend across and cover an area between opposing sides of the wall of the structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure,” as recited in Claim 57, and, as discussed above in relation to Claims 1 and 14, the Examiner’s deconstruction of *Diamond* renders it inoperative for its intended purpose.

The Examiner’s modification of *Haas* with the inoperative portion of *Diamond* renders it inoperative for its intended purpose. Even if one were to accept Examiner’s improperly based assertion that it “would have been obvious . . . to modify *Haas*’ structure to show the panel being made of elastomeric material about 250 mil, the material being polyurethane as taught by *Diamond* because the thickness and elastomeric material would enable the panel to withstand and protect a window structure . . . , and having the thickness in the range of about 180 [sic] mil to less than 250 mil would have been an obvious matter of engineering design since a thickness dimension little more/less than 250 mil would provide the same function . . .”, *Diamond* does not teach or suggest a complete panel thickness that is less than 500 mil (*Diamond* column 7, line 30). *Carson*’s 100 mil and 168 mil thickness fail to fix the *Diamond*’s inoperability. In fact, as discussed above in relation to Claims 1 and 14, deconstructing *Diamond* to only use a 0.25 inch layer renders it inoperative for its intended purpose of stopping wind-borne debris, which would mean the combination of *Haas*, *Diamond* and *Carson* would also be inoperative for its intended purpose to prevent storm debris from penetrating the rigid panel and breaking the glass. See *Haas*, col. 3, lines 5-7.

Modifying *Haas* with *Diamond* and *Carson* as asserted by the Examiner would result in a panel that will not be operative for its intended purpose. Therefore, there is no teaching, suggestion, or motivation in *Haas* or *Diamond* that would lead one of skill in the art to modify the invention in *Haas* with *Diamond* as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In addition, Claim 57 recites, *inter alia*, “fasten said channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the masonry wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,” and “said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking,” which neither *Hass* nor *Diamond* nor *Carson* teach or suggest. Therefore, the Examiner’s assertion that *Hass* as modified shows all the claimed limitation, and is able to function to resist an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and the flexible blast resistant panel being to impede passage through the panel of wall fragments resulting from the explosive blast is wholly unsupported.

See Office Action, p. 27, lines 18-21. Since *Hass*, *Diamond* and *Carson* are entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. See *Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

XI. Whether Claim 70 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*.

Appellant respectfully traverses the rejection of Claim 70 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*.

Claim 70 recites, *inter alia*:

“a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;

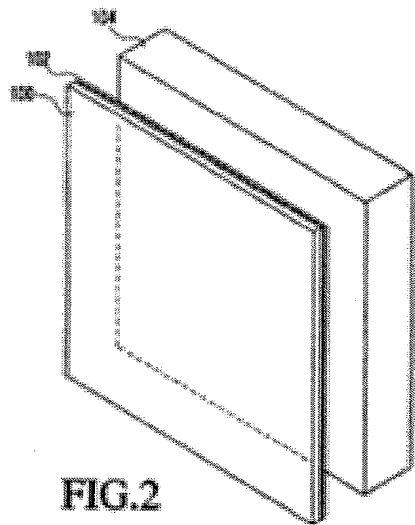
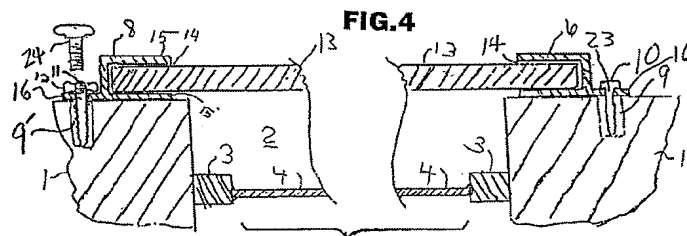
a channel attached around a periphery of the flexible, blast-resistant panel; and

a plurality of fasteners to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure, a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, a third of said opposing sides abutting a left side of the outer perimeter of the wall of said structure, and a fourth of said opposing sides abutting a right side of the outer perimeter of the wall of said structure,

said plurality of fasteners passing through the channel and through the periphery of the flexible, blast-resistant panel to secure the system to the wall.

Support for the foregoing features is clearly provided by Appellant’s FIGs. 1-6; p. 6, lines 4-6; and p. 8, lines 6-9; and p. 11, lines 23-25. As seen clearly below in Appellant’s FIG. 2, an

embodiment of the blast resistant panel 100 with a fabric reinforcing layer 102 is seen in position for installation on and to cover a wall 104 of a structure. In contrast, FIG. 4 of *Haas*, below, shows a rigid rectangular panel 13 (e.g.,  $\frac{3}{4}$  inch plywood or corrugated fiberglass-loaded plastic) mounted in channels 6, 8 (5, 7 not shown in FIG. 4, but shown in FIG. 1 as the top and bottom frame portions) immediately around the exterior of a window opening 2 and over a window frame 3 and a glass pane 4 of a window in a wall 1 to protect them from storms. See *Haas*, Abstract; col. 1, lines 6-9; and col. 2, lines 44-45. *Sato* discloses an impact resistant methacrylic resin composition having improved transparency, weatherability, and impact resistance in a multi-layer graft copolymer and a methacrylic resin. See *Sato*, Abstract; and col. 5, lines 14-25. Fig 1 in *Fonseca*, below, discloses a reinforcing construction sheathing (e.g., plywood, oriented strandboard, etc.) including a planar sheet and a reinforcing strip (e.g., fiberglass, plastic, metal, tape, etc.) attached to at least one face of the planar sheet around an outer perimeter of the planar sheet to resist fastener tear-through. See *Fonseca*, Abstract, FIGs 2s-2e; and paras. [0009], [0014] and [0015].

**FIG. 2****FIG. 4**

The Examiner admits that *Haas* fails to teach or suggest “the plastic being an elastomeric material having a predetermined thickness in a range between about 100 mil and to less than 250 mil, the fastener elements passing through the steel [sic] channel system and periphery of the cured, blast resistant panel.” See Office Action, p. 29, lines 17-19. In addition, *Sato* and *Fonseca*, fail to teach all of the elements of Claim 70.

The Examiner’s modification of *Haas* with the impact resistant methacrylic resin composition of *Sato* and *Disclosure* to the extent that it may be properly applied to the rejection – results in a still rigid, but thinner panel, not the flexible panel, as recited in Claim 70. Even if one were to accept Examiner’s improperly based assertion that it “would have been obvious . . . to modify *Haas*’s [sic] structure to show the panel being an elastomeric material since it enhances weathering ability of the panel as taught by *Sato* et al, and the panel having a thickness in the range of about 100 to about 250 mil, . . ., and one having ordinary skill in the art would have found it to be an obvious matter of engineering design choice to have a thickness dimension a little more/less than 250 mil since it would provide

the same function of protecting a wall against external forces. See Office Action, p. 30, lines 6-18. However, as discussed above, modifying *Haas* with *Sato*, *Fonseca* and *Disclosure* – to the extent that it may be properly applied to the rejection -- as asserted by the Examiner would result in a panel that is still rigid, not flexible, as recited in Claim 70. Therefore, there is no teaching, suggestion, or motivation in *Haas*, *Sato* or *Fonseca* that would lead one of skill in the art to modify the invention in *Haas* with *Sato* and *Fonseca* to try to produce the invention recited in claim 70, as suggested by the Examiner. See, *Carston Manufacturing Co. v. Cleveland Golf Company*, 242 F.3<sup>rd</sup> 1376 (Fed Cir. 2001) – in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2<sup>nd</sup> 900, 221 USPQ 1125 (Fed. Cir. 1984)” (MPEP § 2143.01).

In addition, Claim 70 recites, *inter alia*,

“a channel attached around a periphery of the flexible, blast-resistant panel; and a plurality of fasteners to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure, a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, a third of said opposing sides abutting a left side of the outer perimeter of the wall of said structure, and a fourth of said opposing sides abutting a right side of the outer perimeter of the wall of said structure,”

which neither *Haas* nor *Sato* nor *Fonseca* teach or suggest. At best *Fonseca* discloses a reinforcing strip, not a channel, that is wrapped around and bonded to the edges and end of the



planar sheet which is fastened (i.e., nailed) to a support structure (e.g., 2 x 4's). Therefore, the Examiner has failed to establish a *prima facie* case of obviousness.

In view of the foregoing, the proposed modification of *Hass* is untenable. Withdrawal of the rejection is respectfully requested.

XII. Whether Claim 71 is unpatentable under 35 U.S.C. § 103(a) over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*.

Appellant respectfully traverses the rejection of Claim 71 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Haas* in view of *Disclosure*, *Sato* and *Fonseca*.

Claim 71, which depends from Claim 70, is patentable based at least on those reasons given above for Claim 70.

Claim 71 recites, *inter alia*, “the system having a flexible, blast-resistant panel to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and to impede passage through the blast-resistant panel of wall fragments resulting from the explosive blast,” which neither *Hass* nor *Sato* nor *Fonseca* teach or suggest. Therefore, the Examiner’s assertion that *Hass* as modified shows all the claimed limitations and able to function to resist an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking is wholly unsupported. *See* Office Action, p. 30, lines 19-22. Since *Hass*, *Sato* and *Fonseca* are all entirely silent as to this feature and the Examiner has only provided a conclusory statement and failed to provide any factual basis or cogent reasons for the assertion, the rejection is untenable. *See Ex parte General Components, Inc.*, (BPAI 2010) (Appeal No. 2009-007210) at 15 (citing *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007)) (“[R]ejections on obviousness grounds

cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

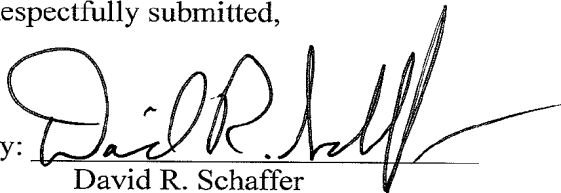
In view of the foregoing, the proposed modification of *Santos* is untenable. Withdrawal of the rejection is respectfully requested.

**8. Conclusion**

The rejections should all be withdrawn for the reasons stated above.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-1165 (T3572-908375US01) any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

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**9. Claims Appendix**

1. A method for improving blast resistance of a structure, comprising:

spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil; and

once cured, securing said blast resistant panel to a wall of said structure so that the blast resistant panel extends from at least two opposing edges of the wall of said structure with a first of said opposing edges being adjacent a top of an outer perimeter of the wall of said structure and a second of said opposing edges being adjacent a bottom of the outer perimeter of the wall of said structure.

14. A blast-resistant panel, comprising:

a cured layer of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil, and

fastener elements for securing said cured layer to a wall of a structure so that the cured layer extends from at least two opposing edges of the wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure,

said blast resistant panel being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.

27. A system for improving the blast resistance of a structure, comprising:

one or more flexible, blast-resistant panels having a predetermined thickness in a range between about 100 mil and less than 250 mil and constructed of an elastomeric material sprayed onto a fabric reinforcing layer,

said one or more flexible, blast-resistant panels having a steel channel fastened around a periphery thereof; and

a plurality of fasteners adapted to fasten said steel channel and said one or more flexible, blast-resistant panels to a wall of said structure so as to cover the wall of said structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall and from a left side of the outer perimeter of the wall to a right side of the outer perimeter of the wall with said one or more flexible, blast-resistant panels,

said one or more flexible, blast-resistant panels being to withstand an explosive blast having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more without breaking.

30. A system for improving penetration resistance of a structure, the system comprising:

a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;

a channel attached around a periphery of the flexible, blast-resistant panel; and

a plurality of fasteners to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure,

said flexible, blast-resistant panel being to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more, and said flexible, blast-resistant panel being to impede passage through said blast-resistant panel of wall fragments resulting from the explosive blast. .

52. A blast and penetration resistant system comprising:

a cured, blast-resistant panel of a sprayed elastomeric material having a fabric reinforced layer embedded therein, the cured, blast-resistant panel having a predetermined thickness between about 100 mil and less than 250 mil, a percent elongation at break in a range of about 400-800%, the fabric reinforcing layer being substantially planar and including warp and fill yarns defining an open grid pattern with openings of up to about 0.5 inches by 0.25 inches and a tensile strength of about 1200 psi by 1200 psi; and

a steel channel subsystem configured to be attached around a periphery of the cured panel and the steel channel subsystem and the periphery of the cured panel fastenable to a wall of a structure so as to cover the wall of the structure from a top of an outer perimeter of the wall to a bottom of the outer perimeter of the wall with the cured, blast-resistant panel.

56. A method for improving blast resistance of a structure, comprising:

spraying a layer of an elastomeric material to form a blast resistant panel of a predetermined thickness in the range of about 100 mil to less than 250 mil; and

once cured, securing said blast resistant panel to an interior surface of an exterior wall in a room of said structure so that the blast resistant panel extends from at least two opposing edges of the exterior wall of said structure with a first of said opposing edges abutting a top of an outer perimeter of the wall of said structure and a second of said opposing edges abutting a bottom of the outer perimeter of the wall of said structure, the blast resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion, the explosion impacting said exterior wall first, and then impacting said blast resistant panel.

57. A system for improving penetration resistance of a structure, the system comprising:

a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;

a channel attached around a periphery of the flexible, blast-resistant panel; and

a plurality of fasteners to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure and a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, and the flexible, blast-resistant panel being adapted to prevent shrapnel from entering the room after the wall is subjected to an explosion having a peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more.

70. A system for improving penetration resistance of a structure, the system comprising:

a flexible, blast-resistant panel of a sprayed elastomeric material having a predetermined thickness in the range of about 100 mil to less than 250 mil;

a channel attached around a periphery of the flexible, blast-resistant panel; and

a plurality of fasteners to fasten said channel to a wall of said structure, the flexible, blast-resistant panel sized to extend across and cover an area between opposing sides of the wall of said structure with a first of said opposing sides abutting a top of an outer perimeter of the wall of said structure, a second of said opposing sides abutting a bottom of the outer perimeter of the wall of said structure, a third of said opposing sides abutting a left side of the outer perimeter of the wall of said structure, and a fourth of said opposing sides abutting a right side of the outer perimeter of the wall of said structure,

said plurality of fasteners passing through the channel and through the periphery of the flexible, blast-resistant panel to secure the system to the wall.

71. A system as set forth in Claim 70, said flexible, blast-resistant panel being to resist an explosive blast having peak incident overpressure of about 17 psi or more and a reflected pressure of about 51 psi or more.



**10. Evidence Appendix**

None.

**11. Related Proceedings Appendix**

None.

**12. Certificate of Service**

None.